

Independent claims 2 and 6 are each directed to an irrigation ablation probe, and each recites "the ablation electrode having at least one irrigation opening through which fluid can pass . . . to the outside of the ablation electrode."

Lorentzen discloses a cooled needle electrode 10 for ablating tissue. The electrode 10 comprises an outer tube 14 covered along part of its length by an insulating material and having an exposed distal region or tip part 16 for ablating tissue. Disposed within the outer tube 14 is an inner tube 18 for supplying a cooling fluid to the inner surface of the tip 16 of the outer tube 14 to prevent tissue charring during ablation. As stated in Lorentzen, "water is led through the inner tube 18 to the tip part 16 and away from the tip part through the interior of the outer tube 14. The outer tube 14 is connected to and communicates with a line 24 for discharge of the cooling water. The lines 22 and 24 communicate with a cooling water reservoir (not shown). Circulation of the cooling water is established with a pump (not shown)." (Column 9, line 62 to column 10, line 4.)

Lorentzen discloses alternative embodiments in FIGs. 2a to 2f. In each of these embodiments the cooling fluid is recirculated, being pumped from the cooling water reservoir, to the tip part 16 and back to the cooling reservoir. Lorentzen does not disclose, teach or suggest for its electrode to have at least one irrigation opening through which fluid can pass to the outside of the ablation needle.

However, the Examiner states that it would have been obvious to modify the electrode of Lorentzen to have the irrigation openings disclosed in Panescu. Applicant respectfully submits that there is no motivation to modify Lorentzen's device to have an electrode with irrigation openings because doing so would destroy its intended function, namely, to recirculate cooling fluid between the cooling water reservoir and the tip part of the electrode 10. (See generally column 9, line 41, to column 10, line 40.)

As the Examiner is aware, if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. M.P.E.P. § 2143.01. Modifying Lorentzen's electrode to include openings would defeat the ability of the catheter to recirculate the cooling fluid, thereby rendering the catheter unsatisfactory for its intended purpose.

Notably, in the Background of the Invention, Lorentzen describes "[d]ifferent strategies to increase lesion size by avoidance of charring [that] have been studied." (See column 2, lines 55 to 56.)

These strategies includes “porous RF needle electrodes for saline tissue irrigation” (column 3, lines 18 to 19) and “[s]aline-enhanced RF tissue ablation” (column 3, line 21). Lorentzen then states in the Summary of the Invention that “[a]n object of the present invention is to provide an electrosurgical instrument which avoids the disadvantages of the prior art electrosurgical instruments.” (Column 3, lines 38 to 40.) In other words, Lorentzen is attempting to avoid using a porous needle or saline-enhanced tissue ablation by recirculating the cooling fluid inside the needle electrode. Further, Lorentzen emphasizes that with his design “no circulating water came in direct contact with the tissue. The cooling effect was a result of irrigation of the needle tip from the inside.” (Column 11, lines 32 to 34.) In short, Lorentzen’s intended purpose is to cool the needle tip from the inside. Putting irrigation openings in Lorentzen’s needle tip defeats this purpose. As such, there is no motivation to modify Lorentzen’s needle tip to include irrigation openings, as presently claimed, regardless of the fact that irrigation openings are disclosed by Panescu.

As such, the combination of Lorentzen and Panescu does not render obvious independent claims 2 or claim 6, or any of claims 3, 4, 7 to 12, 14 to 23, 48, 49, 51 and 52 depending therefrom. Accordingly, Applicant respectfully requests that the rejection of claims 2 to 4, 6 to 12, 14 to 23, 48, 49, 51 and 52 over Lorentzen and Panescu under 35 U.S.C. § 103(a) be withdrawn.

In response to this argument made by Applicant in the Amendment dated December 17, 2002, the Examiner stated “the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious.” (Office action at 3 to 4.) This response does not appear to address Applicant’s contention that modifying Lorentzen’s electrode as proposed by the Examiner would defeat Lorentzen’s intended purpose. Nor does *Ex parte Obiaya* (227 USPQ 58), cited by the Examiner, address the issue of a modification defeating the intended purpose of a prior art reference. If the Examiner continues to maintain that the proposed modification does not defeat the intended purpose of Lorentzen, Applicant respectfully requests clarifications as to the reasons for the contention so that Applicant can better address this contention.

The Examiner rejected claims 5 and 13 under 35 U.S.C. § 103(a) as allegedly unpatentable over Lorentzen in view of Panescu and Ashley (U.S. Patent. No. 6,176,857). Claims 5 and 13 depend from claims 2 and 6 respectively. As previously discussed, claims 2 and 6 are allowable over Lorentzen and

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Panescu. Ashley does not provide the elements that are missing from Lorentzen and Panescu, nor does Ashley provide the motivation to modify Lorentzen that is missing from Lorentzen and Panescu. As such, claims 5 and 13 are also allowable over Lorentzen, Panescu and Ashley. Accordingly, Applicant respectfully requests that the rejection of claims 5 and 13 over Lorentzen, Panescu and Ashley under 35 U.S.C. § 103(a) be withdrawn.


Pending claims 24 to 39 and 41 to 47 have been withdrawn from consideration. Each of these claims depends from either claim 2 or claim 6. Claims 2 and 6 are now believed to be in condition for allowance. As such, Applicant submits that claims 24 to 39 and 41 to 47 are also in condition for allowance as being dependent from an allowable base claim and for the additional limitations they contain therein. No further search is required in connection with these claims. Accordingly, Applicant respectfully requests that claims 24 to 39 and 41 to 47 also be allowed.

In view of the above amendments and remarks, Applicant respectfully submits that claims 2 to 39, 41 to 49, 51 and 52 are in condition for allowance, and a timely indication of allowance is respectfully requested. If there are any remaining issues that can be addressed by telephone, Applicant invites the Examiner to contact the undersigned at the number indicated.

Respectfully submitted,

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